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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,319	12/14/2000	Satoru Toguchi	1558-14	9502

7590 06/09/2003

LAFF, WHITESEL & SARET  
401 North Michigan Avenue  
Chicago, IL 60611

EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 06/09/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/737,319	<b>Applicant(s)</b> TOGUCHI ET AL.	
	<b>Examiner</b> Marie R. Yamnitzky	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 February 2003 and 06 May 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7-12 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12 and 14-17 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |                                                                                                              |                                                                             |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>7</u> . | 6) <input type="checkbox"/> Other:                                          |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submissions filed on February 10, 2003 (an Information Disclosure Statement; Paper No. 7) and May 06, 2003 (an amendment that amends claims 1, 2, 7 and 8, and adds claims 14-18; Paper No. 9) have been entered.

The examiner also acknowledges receipt of a supplemental amendment filed on November 26, 2002 (Paper No. 6) that amends the specification. The supplemental amendment has been entered.

Claims 1-5, 7-12 and 14-18 are pending.

2. The rejection of claims 1 and 3-5 under 35 U.S.C. 102(e) as anticipated by Tamano et al. (US 6,329,084 B1), as set forth in Paper No. 5, is overcome by applicants' amendment.

3. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no antecedent basis for "R<sup>13</sup> to R<sup>26</sup>," as dependent from claim 1. For purposes of comparing to the prior art, the examiner will consider claim 16 as if "R<sup>13</sup> to R<sup>26</sup>," read --R<sup>1</sup> to R<sup>12</sup>--.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-5 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamano et al. (US 6,329,084 B1).

Tamano et al. generically disclose perylene compounds encompassing compounds within the scope of the perylene compound represented by the formula defined in claim 1. For example, see column 2, lines 46-64, c. 3, l. 57-c. 4, l. 2 and c. 4, l. 40-51. These perylene compounds are for use in the light-emitting layer of an organic EL device and are used in combination with other compounds.

With respect to claims 4 and 5, the examiner notes that these claims do not explicitly require the hole transporting layer (in the case of claim 4) or the electron transporting layer (in the case of claim 5) to be separate from the light-emitting layer. In a device having only a single organic layer between the anode and cathode, the organic layer will provide all the functions of light-emission, hole-transportation and electron-transportation.

With respect to claims 14-16, t-butyl and t-butoxy are specifically taught by the prior art (see c. 4, l. 42 and 50).

Tamano's compounds of formula (3) as shown in c. 7-8 and formula (67) as shown in c. 53-54 are specific perylene compounds that are similar to compounds within the scope of the

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perylene compound represented by the formula defined in claim 1. These prior art species differ from the compound required by the present claims in that the alkyl groups that are present on the perylene group in addition to the diarylamino groups are alkyl groups having only one carbon atom. However, Tamano et al. name alkyl groups having four or more carbon atoms as suitable substituents (e.g. see c. 4, l. 40-44).

Tamano et al. do not disclose a specific example of a compound meeting the limitations of the compound required by present claims 1, 3-5 and 14-16 although such compounds are within the scope of the prior art. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make compounds within the scope of Tamano's formula [2] other than those specifically disclosed, and to make compounds that are similar in structure to the species disclosed by the prior art, for use in organic EL devices. One of ordinary skill in the art would have been motivated to make other compounds similar in structure to those disclosed by the prior art with the expectation that compounds similar in structure and within the scope of the prior art generic formula would have similar properties and could be used for the same purpose as the prior art compounds. One of ordinary skill in the art would have reasonably expected that compounds having substituents explicitly taught by Tamano et al. would be suitable for Tamano's devices.

6. Claims 1, 3-5 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-144869.

The prior art generically discloses perylene compounds encompassing compounds within the scope of the perylene compound represented by the formula defined in claim 1. For example, see the English language abstract and formula (1) as shown on the first page of the Japanese language document. Also see the partial machine-assisted translation provided with this Office action. These prior art compounds are taught for use in at least one organic thin film layer of an organic EL device, and may be used alone or in a mixture.

The prior art teaches that the prior art compound of formula (1) may be substituted with an alkyl group, a cycloalkyl group, an alkoxy group, an aromatic heterocyclic group, an aralkyl group, or an aryloxy group. Examples of suitable alkyl groups taught by the prior art include alkyl groups having four or more carbon atoms (e.g. see paragraph [0014]). With respect to the group with steric hindrance as required by claims 14-16, the prior art specifically discloses t-butyl and t-butoxy as possible substituents (see paragraphs [0014] and [0016]).

Although the prior art does not show a specific example of a compound containing one of the groups that meets the present claim requirement for a group with steric hindrance, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make compounds within the scope of the prior art formula (1) other than those specifically disclosed, and to make compounds that are similar in structure to the species disclosed by the prior art, for use in organic EL devices. One of ordinary skill in the art would have been motivated to make other compounds similar in structure to those disclosed by the prior art with the expectation that compounds similar in structure and within the scope of the prior art generic

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formula would have similar properties and could be used for the same purpose as the prior art compounds.

One of ordinary skill in the art would have reasonably expected that prior art compounds of formulae (2)-(4) as shown on page 9 of the Japanese language document, further substituted with at least one alkyl group, cycloalkyl group, alkoxy group, aromatic heterocyclic group, aralkyl group, or aryloxy group, would have properties similar to those of compounds of formulae (2)-(4) and could be used for the same purpose as the compounds of formulae (2)-(4).

One of ordinary skill in the art would have reasonably expected this to be the case since the prior art teaches that the compound of formula (1), of which compounds of formulae (2)-(4) are specific examples, may be substituted with any of the aforementioned groups.

7. Claims 1-5 and 7-12 stand rejected and claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-185961 for reasons of record in Paper No. 5 and the additional reasons set forth below.

Claims 1 and 7 have been amended to require any alkyl group used as the group with steric hindrance to be an alkyl group having not less than four carbon atoms. A partial machine-assisted translation of the reference (provided with this Office action) shows that the prior art discloses alkyl groups having four or more carbon atoms (see paragraph [0022]). With respect to the group with steric hindrance as defined in claims 14-17, the prior art specifically discloses t-butyl, t-butoxy and phenyloxy as possible substituents (see paragraphs [0022], [0026] and [0036]).



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8. Claims 1-3 and 7-10 stand rejected and claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-88120 for reasons of record in Paper No. 5 and the additional reasons set forth below.

Claims 1 and 7 have been amended to require any alkyl group used as the group with steric hindrance to be an alkyl group having not less than four carbon atoms. The prior art discloses alkyl groups having four or more carbon atoms. With respect to the group with steric hindrance as defined in claims 14-17, the prior art specifically discloses t-butyl, t-butoxy and phenoxy (phenyloxy) as possible substituents. See p. 14 of the previously provided translation.

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-5 and 7-12 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,329,083 B1 for reasons of record in Paper No. 5.

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11. Applicants' arguments filed May 06, 2003 have been fully considered but they are not persuasive.

It is the examiner's position that the data set forth in the specification does not demonstrate superior/unexpected results commensurate in scope with the rejected claims.

12. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Miscellaneous:

Claims 3-5 refer to "the compound represented by the general formula [1]" but the clean copy of twice amended claim 1 does not include the designation "[1]". "[1]" should either be deleted from claims 3-5 or inserted after "formula" in line 4 of claim 1.

Claims 10-12 refer to "the compound represented by the general formula [2]" but the clean copy of twice amended claim 7 does not include the designation "[2]". "[2]" should either be deleted from claims 10-12 or inserted after "formula" in line 4 of claim 7.

14. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

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The current fax numbers for Art Unit 1774 are (703) 872-9311 for official after final  
faxes and (703) 872-9310 or (703) 305-5408 for all other official faxes. (Unofficial faxes to be  
sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY  
06/03/03



MARIE YAMNITZKY  
PRIMARY EXAMINER

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